(c) the number of US-built reactors among the above reactors;

(d) whether it is a fact that ten similar reactors in the USA have recently developed cracks; and

(e) if so, what specific safety measures have been taken by Government in this regard?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI BHUVNESH CHATURVEDI): (a) and (b) Yes, Sir. The nuclear power reactors in India have been designed based on a defence-in-depth philosophy, incorporating several barriers to prevent the escape of radioactivity from the reactors to the environment. Operation of the nuclear power reactors is governed by a set of Technical Specifications and is subject to comprehensive safety reviews. The safety aspects of the nuclear power stations are reviewed by the Atomic Energy Regulatory Board before authorising continued operation. Regular surveillance of the environment in and aroud the nuclear power stations is carried out by the Environmental Survey Laboratories at each nuclear power station.

In the three decades of development of nuclear power in India, there has not been a single accident involving release of radioactivity to the environment.

(c) Two nuclear power reactors at Tarapur (TAPS I & 2) were built with U.S. assistance.

(d) and (e) The cracks observed in U.S. boiling water reactors recently are in the core support shroud which is a reactor internal component which surrounds the reactor core having the nuclear fuel and directs the coolant flow. These were detected by visual examination using under water TV. TAPS reactors have similar core shroud made of 1 inch (25.4 mm) thick stainless steel plates. The core support shroud region in TAPs Unit-1 was inspected during the recent refueling outage (Feb-June 1994) using under water TV to the extent possible in accessible areas and no abnormality was observed. Similar examinaion is planned for Unit-2 in the forthcoming outage sometime in December 1994. In addition a detailed examination using a minature under water camera as well as Ultrasonic Test (UT) equipment is planned for the examination of the weld joints of these core shrouds.

Atomic Energy Act, 1962

1340. SHRI SOM PAL: Will the PRIME MINISTER be pleased to state:

(a) whether it is a fact that the Atomic Energy Act, 1962 is an archaic one and 32 years old and that its clause 18(1) restricts the disclosure of information necessary for purposeful regulatory enforcement of safety rules and procedures;

(b) whether it is also a fact that the Atomic Energy Regulatory Board (AERB) has no power to investigate the malfunctioning of a nuclear plant, neither can it protect an informer, nor can it take punitive action against any one for violation of safety rules and procedures; and

(c) whether Goverment have thought of necessary amendments to the Act, 1962 in order to make Department Atomic Energy more open and accountable; if not, the reasons therefor?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI BHUVNESH CHATURVEDI): (a) No, Sir. Clause 18(1) of the Atomic Energy Act does not restrict the disclousre of information necessary for purposeful regulatory enforcement of safety rules and procedures.

(b) The Atomic Energy Regulatory Board which is constituted under Section 27 of the Atomic Energy Act, 1962 has adequate powers to investigate the malfunctioning of any nuclear installation. The AERB is the competent authority to enforce rules and regulations framed under the said Act for radiation safety in the country. The AERB also has the authority to administer the provisions of the Factories Act, 1948 for industrial safety for the units of the Department of Atomic Energy (DAE) as per Section 23 of the said Act. The AERB has the authority to ask for any information or data that is required to fulfil its regulatory role and it shall be obligatory on the part of DAE and its sub-organisations to make such information are data available to the AERB.

The safety reated rules framed under the Act gives authority to AERB, or persons duly authorised by it, to inspect, seize radioactive materials or seal radiation installations and to impose requirements as deemed fit under the circumstances.

(c) As of now, there are no proposals for amendment in this regard, as it is felt that the Department of Atomic Energy is open and accountable.

Radiation discharge from nuclear plants

1341. SHRI SOM PAL: Will the PRIME MINISTER be pleased to state:

(a) what is the permissible limit of radiation discharged from our country atomic power plants;

(b) whether it has been constant for all reactors or it has been lowered for the ageing reactors;

(c) what is the permissible limit of radiation discharge from Rajasthan Atomic Power Stations-I and II; and

(d) to what extent the limit differs from that of Tarapur Atomic Power Station and what are the reasons therefor?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI BHUVNESH CHATURVEDI): (a) and (b) The permissible limit of radioactivity discharge from the atomic power reactors is the amount of activity which will not expose the population outside the exclusion zone of the power plant to a radiation dose of more than one millisievert/year. The permissible limit of activity for a reactor is not a constant for all reactors. A site where a nuclear power station is located may have other intallation such as fuel reprocessing plant and waste management facility. In view of this, the permissible dose limit of one millisievert/year is apprortioned among all the facilities in such a way that, effluents from all the plants together should not countribute to population doses above the dose limit of one millisievert/year.

(c) and (d) Currently the permissible limit of radioactivity discharges into the environment from Rajasthan 1&2 are such that the dose to any member of the public outside the exclusion zone should not exceed 0.465 mSv/year. The corresponding value for the Tarapur reactor is 0.33 millisievert/year. The type of reactors at Tarapur and Rajasthan are different. The radioactivity discharge limit assigned to each nuclear power station is site specific. Generally the limits are decided on the basis of apportionment of the total limit of one millisievert/year among different facilities. It is acceptable to permit some flexibility between different facilities. But the contribution to radiation dose to public from all facilities should not exceed the limit fixed.